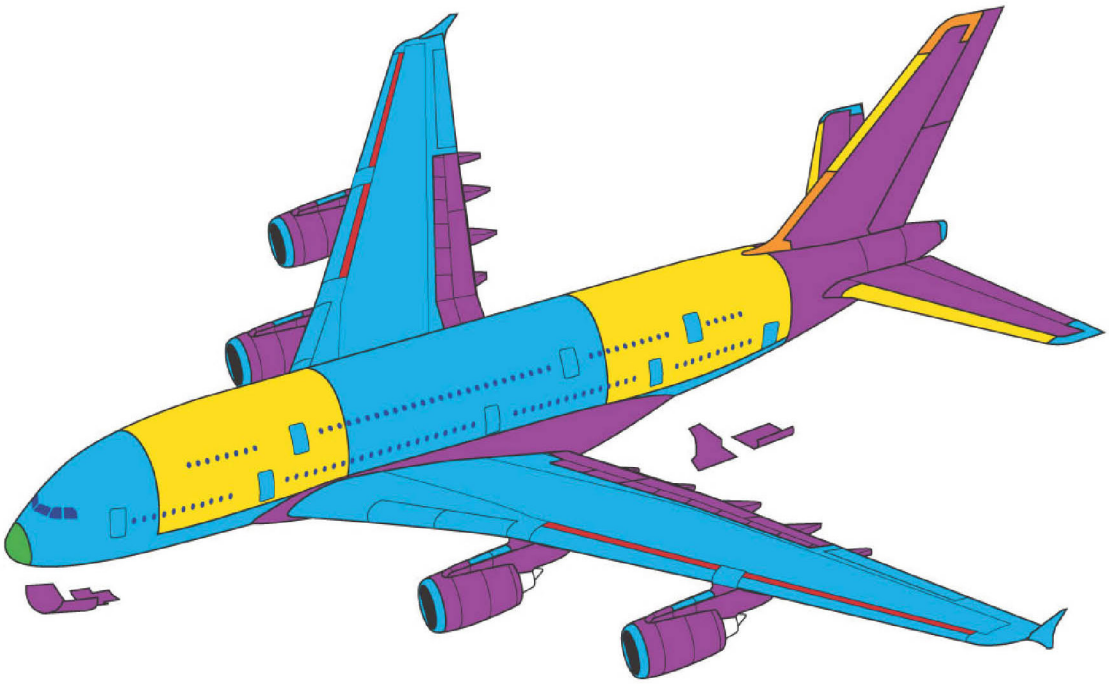
E-Newsletter nº2

Thematic Commissions



SKILLMAN

Sector Skills Alliance
for Advanced Manufacturing
in the Transport Sector

skillman.eu

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SKILLMAN Thematic Commissions

Key occupational priorities becomes key educational priority areas

The purpose of Work Package 1 is to reconfirm the focus areas to be addressed by the project Thematic Commission and Joint European Curricula and Qualifications.

Industrial partners have expressed their priorities, which are in line with the project application and can be summarized in the following:

- Robotics, programming and maintenance technicians
- Composite and lightweight materials in avionics
- Wireless technologies

Thematic Commissions are conceived as working groups looking at technological trends in the sector and deriving educational priorities to be addressed by the educational programs, curricula and educational materials to be developed by SKILLMAN.

Under Work Package 1, SKILLMAN has foreseen the production of 2 publications, a graphic representation is shown below.

Transformative enabling technologies

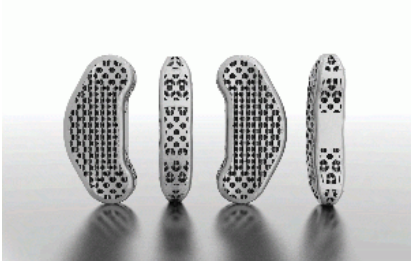
Advanced manufacturing is closely connected to what are known as ‘key enabling technologies’, which provide some of the main sources of innovation for a wide range of industries.

These innovations are not confined to the manufacturing sector per se, and have potential impacts in sectors as diverse and agriculture and health.

However, there are close links with production processes, creating both opportunities and challenges for manufacturing employers

Main trends

Additive manufacturing

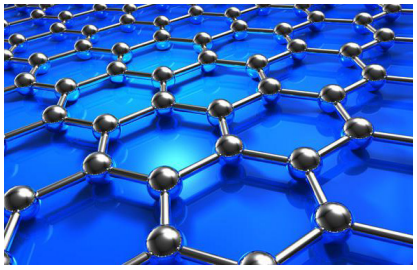


The development of products using digitally controlled machine tools. Products are built through layering rather than traditional methods of moulding, casting or welding

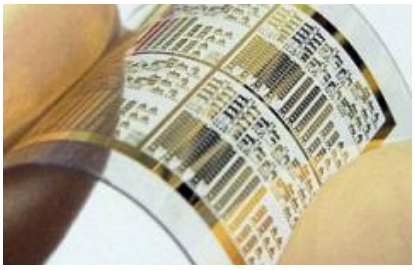
Composite manufacturing

Educational modules to be developed by SKILLMAN will focus on programming and maintenance of automated production lines

Nanotechnology



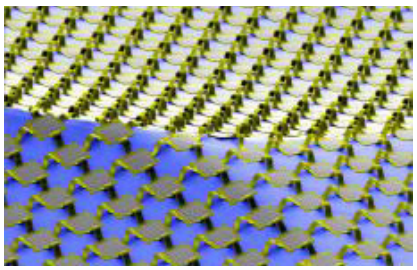
The manipulation of materials at a sub-atomic level to create new materials. It is used for both organic and non-organic materials



Plastic electronics

Electronics built using semi-conducting plastic polymers. Diodes and transistors are ‘printed’ on plastic substrates using inks of semi-conducting plastic materials

Silicon electronics

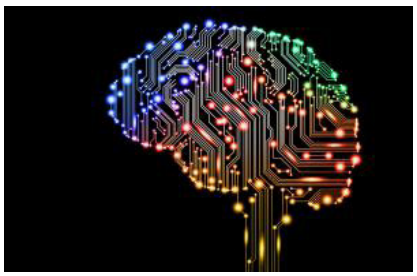


The development of electronic circuits built on a single layer of single-crystal silicon. It is considered advantageous because it consumes very little power

Industrial Biotechnology

The industrial manufacture of chemical products using biological rather than oil-based materials

Robotics and artificial intelligence



The use of machinery to automate parts of the production process. A potential recent development in this area is artificial intelligence, which is software that make decisions on optimizing the production process

The economy situation in the automotive sector

The automotive industry is crucial for Europe's prosperity. The sector provides jobs for 12 million people and accounts for 560 billion EUR. The EU is among the world's biggest producers of motor vehicles and the sector represents the largest private investor in research and development (R&D). To strengthen the competitiveness of the EU automotive industry and preserve its global technological leadership, the European Commission supports global technological harmonization and provides funding for R&D.

The economy situation in the automotive sector

Adverse economic situation created unfavourable conditions for almost all European industry sectors not sparing vehicle manufacturers. Five consecutive years (2008 – 2012) of significant sales and registration decline in Europe brought the automotive sector back to the volumes of the year 1995, almost a quarter lower comparing to peak numbers of the year 2007. Falling sales have affected vehicle manufacturers in Europe in an inhomogeneous manner. Volume producers, with a product range focused on small and medium size cars, had the heaviest impact. Upon those companies, a strong pressure for cutting costs built, resulting in several restructuring operations across Europe (PSA, Ford, GM and FIAT).

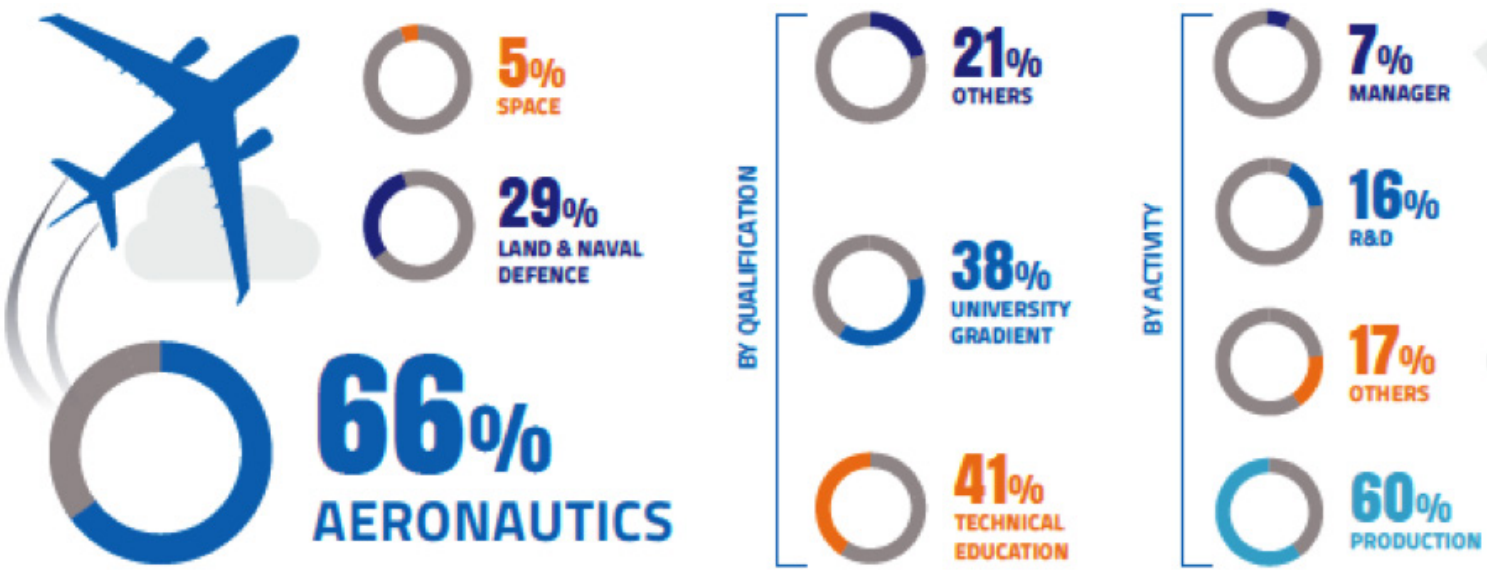
The car sales decline in Europe reached its peak in 2013, rebounding since the last 2013 trimester.

On 8 November 2012 the European Commission adopted the Communication: CARS 2020: Action Plan for a competitive and sustainable automotive industry in Europe. The Commission indicated the importance of specific actions in the following areas:

- Promotion of investment in advanced technologies and innovation for clean, energy efficient and safe vehicles;
- Improvement of market conditions by, among others, strengthening the single market for vehicles, consistent application of the smart regulation principles and application of competitiveness proofing;
- Supporting the European automotive industry in approaching global markets by means of balanced trade policy, assessment of cumulative impacts of the free trade agreements (FTAs), bilateral dialogues with major third markets and promotion of international harmonization of vehicle regulations;
- Promotion of further investments in skills and training in order to meet the needs of the industry in terms of accessibility of highly skilled workforce.

The Commission together with the stakeholders has made great efforts to address persisting problems and to respond to global and structural challenges the industry is facing with today:

- Pillar I - Investing in advanced technologies and financing innovation;
- Pillar II - Improving market conditions;
- Pillar III - Enhancing competitiveness on global markets.



The economy situation in the avionics sectors

Avionics is one of the EU's key high-tech sectors on the global market:

- It provides more than 500.000 jobs and generates a turnover of close to 140 billion Euro in 2013. Civil aeronautics shows an important increase with a turnover amounting to EUR 89.2 billion in 2013, compared to EUR 81.3 billion euro in 2012;
- EU is a world leader in the production of civil aircraft, including helicopters, aircraft engines, parts and components;
- EU has a trade surplus for aerospace products, with exports all over the world.

The industry is highly concentrated, both geographically (in particular EU countries) and in terms of the few large enterprises involved.

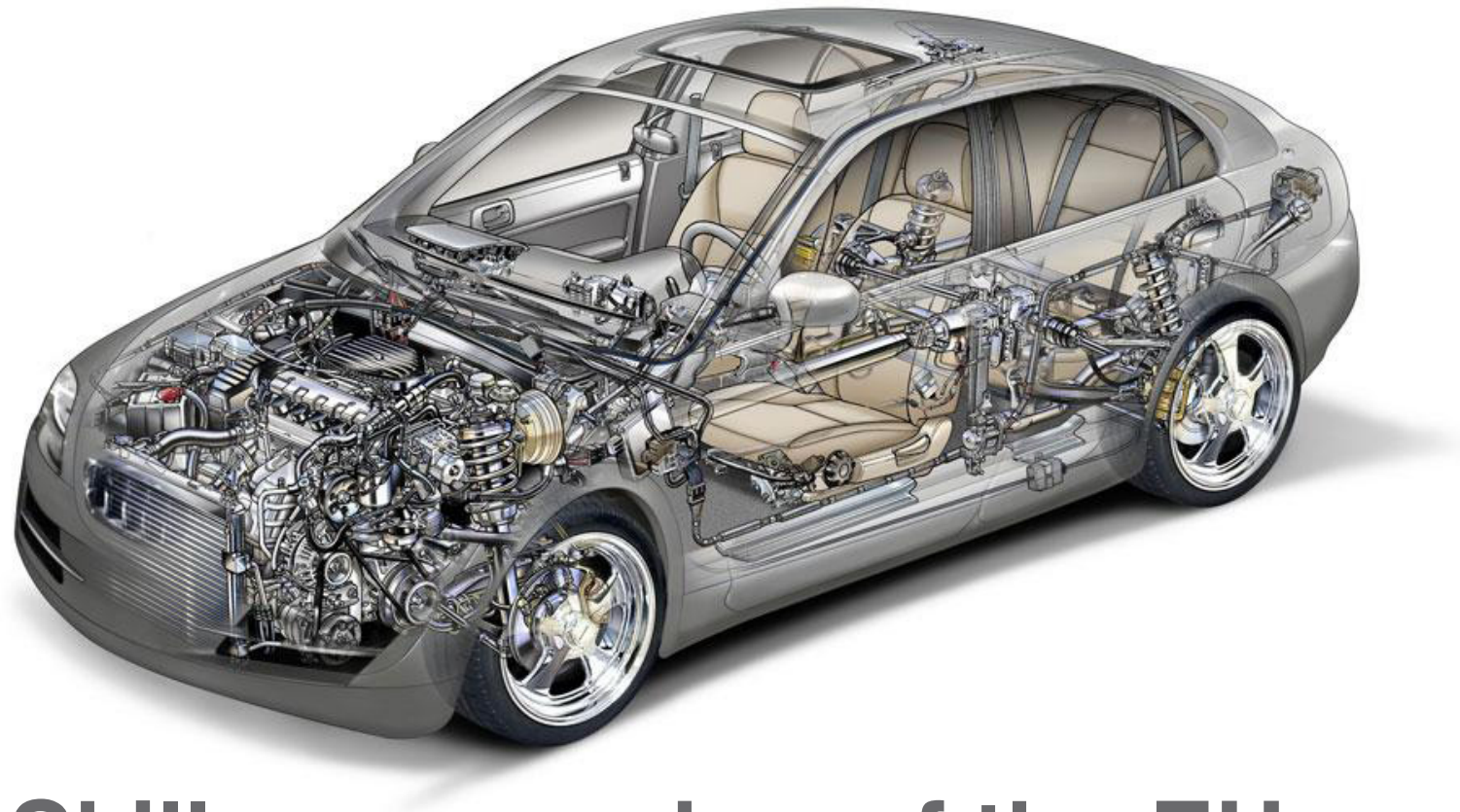
The economy situation in the avionics sectors

Employment in the aerospace sector is particularly significant in the United Kingdom, France, Germany, Italy, Spain, Poland and Sweden. In 2013, the Aero Space and Defence Industries Association of Europe wrote a report[1], where the aerospace sector is divided in three sub-sectors and their employees are quantitatively evaluated as follows:

The European Commission implements a number of policy actions, to address key issues that influence the aeronautics industry, including:

- The Commission promotes the sustainable competitiveness of European aeronautics industries, focusing in particular on emerging sectors such as Remotely Piloted Aircraft Systems (RPAS - also known as drones).
- Accessing markets outside the EU is crucial for jobs and growth within the EU. The Commission works to keep markets and trade open by providing information on EU civil aviation exports. The most important barriers faced by EU producers of civil aircraft are the substantial subsidies paid by the US Government to their main competitor – Boeing - in the United States. The Commission represents and defends the EU aeronautics industry in dispute settlements at the World Trade Organisation.
- Investment in research, development and innovation (RDI) is vital for the competitiveness of the EU aeronautics industry. RDI expenditures represent 10% of industry turnover, one third of which being financed by the public sector. The Strategic Research and Innovation Agenda (SRIA) is the roadmap developed by the European industry through the Advisory Council for Aeronautics Research in Europe (ACARE) providing a guide to future public and private RDI programs. The Commission also supports the European RDI effort in aeronautics through Horizon 2020 under the “Smart, Green and Integrated Transport challenge” and two Joint Technology Initiatives, Clean Sky and the SESAR Join Undertaking.
- The Commission has taken several measures to mitigate the growing impact of aviation on the environment. Aircraft emissions contribute to global climate change and impact on local noise and air quality.
- The common EU aviation policy aims to make Europe the safest air space in the world.

The European Commission, in order to fully exploit the economic potential of the sector, develops policy initiatives on several key issues: safety, single market, Single European Sky, External Aviation policy.



Skillman member of the EU Automotive Skills Council

On may 2015 Skillman, represented by Stefano Tirati, has signed a membership agreement with the EU Automotive Skills Council (European Council for Skills and Employment in the Automotive Industry).

The European Sector Skills Council, funded by the European Commission DG Employment, aims at establishing a networking platform with focus on skills issues in the automotive sector. Project partners CLEPA, ETRMA and industriAll - with the support of ACEA and CEEMET - have been trusted with the establishment of this networking platform which will enable and facilitate the exchange of best practices at European level in terms of anticipating and managing skills requirements for the automotive industry.

The membership is composed by consortium partners, project supporters and organisations with a relevant involvement in Education, Training and Employment in the Automotive Industry.

During the activities that led to the formal creation of the EU Automotive Skills Council, Skillman has been identified as an organisation sharing similar interests and with characteristics that are compatible with the role of Associate Member.

For more information: www.euautomotiveskillscouncil.eu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